Memorandum

Date: February 26, 2003 **File #:**

To: Al Alvarado – California Energy Commission

From: Richard Aslin – Pacific Gas and Electric Company

Subject: PG&E Comments on CEC Draft Demand Forecast for IEP Report

PG&E's Observations on CEC Staff's Preliminary Electric Demand Forecast

General Comments

PG&E congratulates the CEC staff on taking on the daunting task of preparing projections of sector specific, utility specific, statewide and WECC wide electric energy and peak demand. This undertaking requires a great deal of effort and thoughtfulness on the part of CEC staff and PG&E would like to take this opportunity to recognize the CEC staff for their commendable contributions.

PG&E welcomes the opportunity to participate in this workshop and looks forward to continuing to work closely with Commission staff on these important issues. Given the large amount of uncertainty regarding the future of energy consumption over the next decade PG&E is encouraged by the level of concurrence between the views of the CEC staff as captured in this draft electric demand forecast and PG&E's own internal projections covering that same period. With the exception of a couple of forecast areas, discussed below, PG&E believes the CEC's projections lie within a plausible range of outcomes.

Major Areas of Disagreement between Staff's and PG&E's Long-Term Outlook

PG&E has two main observations regarding the Staff's preliminary electric demand forecasts that, in PG&E's opinion, should be adjusted before finalizing the forecast for use in the IEP Report:

- PG&E does not fully understand the reason why the preliminary forecasts for 2003 for peak (MW) is below the observed levels for 2002. As shown in Table D-10, the projected 2003 peak is 660 MW below the 2002-recorded peak for the PG&E's planning area. Since it appears that the 2002 recorded peak demand has been temperature normalized this reduction in peak demand must be driven by some other underlying driver but that driver is not explained in the report. A similar phenomenon can be observed in the peak projections for SMUD but for all the other utility planning areas 2003 peaks show significant increases over 2002 recorded peaks.

  PG&E asks that the CEC give serious consideration to re-calibrating the model such that the 2003 peak forecast for PG&E is at least 300 MW (1.5%) higher than the 2002 temperature adjusted peak prior to finalizing the load projections for the IEP Report.

- PG&E does not agree with the robust nature of projected increases in residential energy demand for its service territory as shown in Table A-1 of the CEC Report. Staff's projections show average residential energy use growth of 3.5% per year over the period 2003 to 2005. An average growth of 2.7% from 2006-2013. These growth rates are almost three times the average growth rate in residential customers over those same periods.

This level of residential energy demand growth is unprecedented in the nearly 30-years of historical demand data that PG&E has in its possession. The table, below, shows the average 5-year growth rates for residential demand in PG&E's service territory from 1980 through 2000 along with comparable growth rates for PG&E population growth and growth in households. As you can see the only period that even comes close to the growth rates projected by the CEC is the period 1995-2000 and, by the CEC's admission, that type of robust economic/demographic growth is not likely to occur during the forecast horizon.

It is PG&E's understanding that this increase in demand in driven by projected underlying growth in income combined with projected declines in retail rates beginning in 2004. The relative strength of each driver is unclear from the information provided in the report. Regardless of the cause, PG&E does not believe that growth of the magnitude projected is plausible even in the short-term, let alone as a long-term average rate of growth.

PG&E requests that the CEC re-consider the very high growth in residential demand projections for PG&E's service area prior to finalizing the energy demand forecast for the IEP Report. PG&E's current internal projections for growth in residential demand over the period 2003-2013 are approximately 1.5% per year. This is about 20 basis points higher than projected population growth for our service territory over the same time-frame and is consistent with the long-term relationship between population growth and residential energy use that has held for the past two decades.

While PG&E's projections do contain an inherent assumption that commitment to conservation program spending continues at approximately the same average rate as in the historic period this, by itself, could not explain the vast difference between projected growth rates. In PG&E's opinion, even without considering conservation programs on a going-forward basis, projected residential growth in the range of 20 to 50 basis points over the projected growth rate of population or

From	T0	Average Residential Energy Use Growth Rate	Average Population Growth Rate	Differential Growth Rates: Energy Use - Population Growth
1980	1985	1.7%	2.0%	-0.3%
1981	1986	1.4%	2.0%	-0.6%
1982	1987	2.8%	2.0%	0.8%
1983	1988	2.8%	2.1%	0.7%
1984	1989	2.1%	2.3%	-0.2%
1985	1990	2.1%	2.3%	-0.2%
1986	1991	2.6%	2.3%	0.3%
1987	1992	1.7%	2.1%	-0.4%
1988	1993	1.4%	1.9%	-0.5%
1989	1994	1.2%	1.5%	-0.3%
1990	1995	0.9%	1.2%	-0.3%
1991	1996	1.3%	1.2%	0.2%
1992	1997	1.6%	1.2%	0.4%
1993	1998	2.0%	1.3%	0.8%
1994	1999	2.5%	1.4%	1.1%
1995	2000	3.2%	1.5%	1.7%
Average		2.0%	1.8%	0.2%
StDev		0.7%	0.4%	0.7%

Source = CEC's Table A-1 for Energy Use; Economy.com for Average Population Growth

households would be much more reasonable than the draft forecast.

Note that much of the 1995-2000 growth is due to temperature differences between the anchor years.

Other Areas in Which CEC Asked for Comments

There are two other areas in that PG&E feels are worth commenting on: the treatment of load reduction due to conservation; the treatment of self-generation; the development of scenarios.

- Conservation: PG&E recommends that the staff final demand forecast include load reductions due to conservation programs consistent with the current public goods charge whether those programs are currently " committed" or not.
- Development of Scenarios: PG&E recommends that the staff avoid mixing multiple worst case/best case events in the development of the high/low scenarios. In particular, PG&E recommends that the high/low scenarios on demand only include a reasonable band of changes in the underlying drivers such as population, households, income, employment and GSP. PG&E believes it is vitally important that the scenarios represent probability bands or recurrence intervals so that they can be reasonably used in risk management and decision-making.

  PG&E's preference would be for scenarios representing 1 in 5, 1 in 10 and 1 in 40 type events would be most useful as these recurrence intervals are commonly used in long-term planning within the utility industry.

  If Staff follows its scenario development as proposed in the draft report document, PG&E feels that the resulting scenarios will neither be used or useful for any practical planning exercises for either infrastructure or procurement planning. Scenarios based on a " perfect storm" combination of adverse events without any associated probability of occurrence is of very limited use in a " least cost" planning environment.

  In addition, PG&E would strongly recommend that the Staff avoid confounding future analysis by mixing supply side and demand side drivers within the demand scenarios. For example staff should avoid folding in resources such as self-generation, conservation and demand side management into the demand scenarios. There needs to be a " bright-line" delineated between issues that have to do with the development of resourced (generation, conservation programs and demand side management initiatives) to meet demand and the actual underlying demand for energy services.

Conclusion

PG&E is in general agreement with the CEC peak load growth forecast for PG&E's service area with the important exception of the negative peak load growth in 2003. On the energy use side, PG&E is in general agreement with the growth rates as projected by the CEC for all customer classes with the notable exception of the very high growth rate for the residential class. It is PG&E's hope that the CEC staff will work with PG&E's forecasting staff to develop a consensus view of the forecasts between the forecasting groups prior to finalization of the IEP Report.

With respect to the development of the scenarios, PG&E urges the Staff to make a " bright-line" distinction between resources and demand and to avoid embedding resource assumptions (self-generation, conservation programs, demand side management initiatives) within the demand forecast (both in the basecase and the scenarios). Lastly, PG&E recommends that the Staff develop scenarios for 1 in 5, 1 in 10, and 1 in 40 recurrence intervals so that these scenarios can be reasonably used in risk management and utility planning exercises.

Sincerely,

Richard Aslin
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